

BUILDING STANDARDS COMMISSION

2525 Natomas Park Drive, Suite 130
Sacramento, California 95833-2936
(916) 263-0916 FAX (916) 263-0959



October 12, 2017

Ms. Sheri Marie Smith
City Clerk
City of Orinda
22 Orinda Way
Orinda, CA 94563

RE: Ordinance #17-01
Resolution #04-17

Dear Ms. Smith:

This letter is to advise you of our determination regarding the referenced ordinance with express findings received from your agency on October 02, 2017.

Our review finds the submittal to contain one ordinance, No. 17-01, modifying provisions of the 2016 California Building Standards Code in Title 24, California Code of Regulations (code), and express findings complying with Health and Safety Code Sections 17958.7 and 18941.5. The code modifications are accepted for filing and are enforceable. This letter attests only to the satisfaction of the cited law for filing of local code amendment supported by an express finding with the California Building Standards Commission (CBSC). CBSC is not authorized by law to evaluate the merit of the code modification or the express finding.

Local modifications to the code are specific to a particular edition of the code. They must be readopted and filed with CBSC in order to remain in effect when the next triennial edition of the code is published.

On a related matter, should your city receive and ratify Fire Protection District ordinances making modifications to the code, be advised that Health and Safety Code Section 13869.7(c) requires such ratified ordinances and express findings to be filed with the Department of Housing and Community Development, Division of Codes and Standards, State Housing Law Program, rather than CBSC. Also, ordinances making modifications to the energy efficiency standards of the code may require approval from the California Energy Commission pursuant to Public Resources Code Section 25402.1(h)(2).

If you have any questions or need any further information, you may contact me at (916) 263-0916.

Sincerely,

A handwritten signature in blue ink, reading "Enrique M. Rodriguez", is written over the "Sincerely," line.

Enrique M. Rodriguez
Associate Construction Analyst

cc: CBSC Chron
Local Filings



22 orinda way • orinda • california • 94563

RECEIVED

September 28, 2017

2017 OCT -2 P 1:09

CALIFORNIA BUILDING
STANDARDS COMMISSION

Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833

Moraga-Orinda Fire District
1280 Moraga Way
Moraga, CA 94556

Re: City of Orinda's Modifications to the 2016 California Fire Code

To Whom it May Concern:

On January 24, 2017, the Orinda City Council adopted Ordinance No. 17.01 adopting by reference the Green Building Standards Code, California Existing Buildings Code, California Mechanical Code, California Plumbing Code, California Electrical Code, California Fire Code ("Building Codes"), with modifications to those codes to reflect local conditions, and adopt Resolution No. 04-17, Adopting Contra Costa County's findings in support of changes, additions, and deletions to Statewide Building Standards Code, which find that the modifications to the Building Codes are reasonably necessary because of local climatic, geological, and topographical conditions.

I am filing the following enclosed documents with the California Building Standards Commission:

1. A copy of Orinda City Council Ordinance No. 17-01
2. A copy of Orinda City Council Resolution No. 04-17

If you have any questions about this matter, please feel free to contact me.

Sincerely,

Sheri Marie Smith
City Clerk, City of Orinda

Cc: Contra Costa County Conservation & Development Department
Building Inspection Division

Department of Housing and Community Development

General Information
(925) 253-4200 (ph)
(925) 254-2068 (fax)

Administration
(925) 253-4220 (ph)
(925) 254-2068 (fax)

Planning
(925) 253-4210 (ph)
(925) 253-7719 (fax)

Parks & Recreation
(925) 254-2445 (ph)
(925) 253-7716 (fax)

Police
(925) 254-6820 (ph)
(925) 254-9158 (fax)

Public Works
(925) 253-4231 (ph)
(925) 253-7699 (fax)

BEFORE THE CITY COUNCIL OF THE CITY OF ORINDA

AN ORDINANCE ADOPTING THE)
2016 CALIFORNIA BUILDING,)
RESIDENTIAL, GREEN)
BUILDING STANDARDS, FIRE,)
PLUMBING, ELECTRICAL, AND)
MECHANICAL CODES WITH)
MODIFICATIONS FOR LOCAL)
CONDITIONS)

ORDINANCE NO. 17-01

CALIFORNIA BUILDING
STANDARDS COMMISSION

2017 OCT -2 P 1:09

RECEIVED

The City Council of the City of Orinda DOES ORDAIN as follows:

SECTION 1. The City Council of the City of Orinda finds that:

1. The State of California has adopted the 2016 California Building Code (California Code of Regulations, Title 24, Part 2, Volumes 1 and 2); the 2016 California Residential Code (California Code of Regulations, Title 24, Part 2.5); the 2016 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11); the 2016 California Existing Building Code (California Code of Regulations, Title 24, Part 10); the 2016 California Fire Code (California Code of Regulations, Title 24, Part 9); the 2016 California Plumbing Code (California Code of Regulations, Title 24, Part 5); the 2016 California Mechanical Code (California Code of Regulations, Title 24, Part 4); the 2016 California Electrical Code (California Code of Regulations, Title 24, Part 3). These Codes shall hereinafter be referred to collectively as the "Building Codes."
2. On January 10, 2017, pursuant to California Government Code Section 50022.3, the City Council of Orinda conducted a first reading of this ordinance adopting the Building Codes by title only and scheduled a public hearing on the adoption of the Building Codes to be held on January 24, 2017.
3. At least 15 days prior to public hearing, pursuant to California Government Code Section 50022.6, at least one true copy of the Building Codes was filed with the City Clerk for public inspection.
4. At least 14 days prior to public hearing, pursuant to California Government Code Sections 50022.3 and 6066, a notice was published in a newspaper of general circulation, stating the time and place of the January 24, 2017, public hearing and including a description that the legislative body deemed sufficient to give notice of the purpose and subject matter of this ordinance. The notice informed the public that copies of the Building Codes considered for adoption were on file with the City Clerk and open for public inspection.

5. In the week preceding the public hearing, pursuant to California Government Code Sections 50022.3 and 6066, a second notice identical to the first was filed in a newspaper of general circulation.

6. On January 24, 2017, pursuant to California Government Code Section 50022.4, a public hearing was held. The City Council found adoption of the Building Codes was in the public interest. Except as to the additions, deletions, and amendments hereinafter noted, the Building Codes are hereby adopted and made a part hereof, the same as if fully set forth herein, and shall be the building regulations of the City.

8. The additions, deletions, modifications, and amendments hereinafter noted are deemed reasonably necessary because of local climatic, geological, or topographical conditions pursuant to Government Code Section 17958.5. Express findings that these modifications to the Building Codes are reasonably necessary will be filed with the California Building Standards Commission in accordance with California Health and Safety Code Section 17958.7.

9. While this ordinance is in force, a true copy of the Building Codes shall be kept for public inspection in the office of the City Building Official and a reasonable supply of the Building Codes shall be available for public purchase in the office of the City Clerk in accordance with Government Code Section 50022.6.

SECTION 2. Chapter 8.20 is repealed in its entirety, and a new Chapter 8.20, as shown in Appendix A attached to this ordinance and incorporated by this reference, shall be added to the Orinda Municipal Code.

SECTION 3. Chapter 15.08 is repealed in its entirety, and a new Chapter 15.08, as shown in Appendix A attached to this ordinance and incorporated by this reference, shall be added to the Orinda Municipal Code.

SECTION 4. Chapter 15.09 is repealed in its entirety, and a new Chapter 15.09, as shown in Appendix A attached to this ordinance and incorporated by this reference, shall be added to the Orinda Municipal Code.

SECTION 5. Chapter 15.10 is repealed in its entirety, and a new Chapter 15.10, as shown in Appendix A attached to this ordinance and incorporated by this reference, shall be added to the Orinda Municipal Code.

SECTION 6. A new Chapter 15.11, as shown in Appendix A attached to this ordinance and incorporated by this reference, shall be added to the Orinda Municipal Code.

SECTION 7. Chapter 15.12 is repealed in its entirety and a new Chapter 15.12, as shown in Appendix A attached to this ordinance and incorporated by this reference, shall be added to the Orinda Municipal Code.

SECTION 8. Chapter 15.16 is repealed in its entirety and a new Chapter 15.16, as shown in Appendix A attached to this ordinance and incorporated by this reference, shall be added to the Orinda Municipal Code.

SECTION 9. Chapter 15.20 is repealed in its entirety and a new Chapter 15.20, as shown in Appendix A attached to this ordinance and incorporated by this reference, shall be added to the Orinda Municipal Code.

SECTION 10. This ordinance is consistent with the Orinda General Plan. This ordinance will not have a significant adverse effect on the environment as defined in the California Environmental Quality Act.

SECTION 11. This ordinance becomes effective 30 days after adoption.

SECTION 12. The City Clerk shall either (a) have this ordinance published once within 15 days after adoption in a newspaper of general circulation or (b) have a summary of this ordinance published twice in a newspaper of general circulation, once 5 days before its adoption and again within 15 days after adoption.

The foregoing ordinance was introduced at a regular meeting of the City Council of the City of Orinda held on January 10, 2017, and was adopted and ordered published at a regular meeting held on January 24, 2017, by the following vote:

AYES: COUNCILMEMBERS: GEE, MILLER, ORR, PHILLIPS, WORTH

NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: NONE

ABSTAIN: COUNCILMEMBERS: NONE

ATTEST:


Sheri Marie Spediaci, City Clerk


Eve Phillips, Mayor

Appendix A: New Chapters 8.20, 15.08, 15.09, 15.10, 15.11, 15.12, 15.16, and 15.20

846706.5

RECEIVED

2017 OCT -2 P 1:09

CALIFORNIA BUILDING
COMMISSION

APPENDIX A

Chapter 8.20 - FIRE SAFETY

8.20.010 - Adoption.

- A. The fire code of the city is the 2016 California Fire Code (California Code of Regulations, Title 24, Part 9 (based on the 2015 International Fire Code)) as amended by the changes, additions, and deletions set forth herein.
- B. The 2016 California Fire Code (CFC) with the changes, additions, and deletions set forth in this chapter and in other chapters of this title and Title 15 are adopted by this reference as though fully set forth.
- C. At least one copy of this fire code is now on file with the Building Inspection Department, and the other requirements of Government Code Section 50022.6 have been and shall be complied with.
- D. As of the effective date of the ordinance codified in this chapter, the provisions of the fire code are controlling and enforceable within the city.
- E. The provisions of this chapter are to be read in conjunction with the provisions of Title 15, Chapter 15.08 "Building Code" of this code which adopts and modifies the 2016 California Building Code (California Code of Regulations, Title 24, Part 2, Volumes 1 and 2).

8.20.020 - Purpose.

- A. This chapter regulates the use of construction materials and requires the installation of specific fire safety features in new construction in the city.
- B. This chapter implements the safety element of the city's General Plan to:
 - 1. Coordinate the review of development applications between the city and the Moraga-Orinda Fire District; and
 - 2. Regulate the design of buildings, siting and vegetation management to enhance maximum fire prevention and protection.
- C. To the extent that a provision of this chapter conflicts with a provision of the 2016 California Building Standards Code, or any sections of the Orinda Municipal Code which have adopted the above code by reference and which have been adopted by reference into this code, this chapter shall prevail. This chapter regulates building construction in the city due to the characteristics of the city's climate, topography and geology which necessitate variations from the 2016 California Building Standards Code.

8.20.030 - Automatic fire extinguishing systems in new buildings.

A. Section 902.1 of CFC Chapter 9 (Fire Protection Systems) is amended to add:

1. The following definition is defined in section 8.20.060 of this code: Substantial addition or expansion.

B. **Automatic sprinkler systems.** Section 903 is amended as follows:

1. **903.1 General.** Automatic sprinkler systems shall comply with this section. For the purposes of this section, fire walls shall not be considered as creating separate buildings.

2. **903.2 Where required.** Approved automatic sprinkler systems shall be installed in new buildings with a gross floor area that exceeds 5,000 square feet and in the locations set forth in Section 903.6.4.

Exception: Systems which are required to mitigate deficiencies shall be installed in accordance with requirements as deemed necessary by the fire code official.

3. **903.2.8 Group R.** An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.

Exceptions:

1. See California Fire Code Section 903.2.8, Exceptions 1 through 4.
2. Detached Group U private garages accessory to a Group R-3 occupancy.
4. Section 903.3.1.2.3 is added to read:

903.3.3.1.2.3 Undeclared use and tenant space. In buildings of undeclared use or with tenant space areas; the fire sprinkler system may be required to conform to the design density of the most hazardous occupancy use allowed within the building. Where a subsequent occupancy requires a system with greater capability, it shall be the responsibility of the owner/and or tenant occupant to upgrade the system.

5. **903.3.5 Water supplies.** Section 903.3.5 is amended to add subsection 903.3.5.3 to read:

903.3.5.3 Non-permissible water supply storage. Swimming pools, ponds, and underground cisterns shall not be considered water storage for the purposes of CFC Section 903.3.5.

Exception: Secondary water supplies for fire pumps in commercial buildings where the primary water supply is provided by a municipal water purveyor.

6. Section 903.3.19 is added to read:

903.3.3.19 System Risers. The location of system risers shall be approved by the fire code official. System risers shall be located in common area of the protected premises with regards to firefighter access. System risers located inside buildings shall either be located in stairways or in riser closets accessible from common areas.

8.20.040 - Automatic fire extinguishing systems in existing buildings.

A. Section 903.6.1 is added to read:

1. **903.6.1 Substantial Remodel.** In an existing building, if a substantial remodel occurs, the entire building shall be protected by an automatic sprinkler system in accordance with Section 903 and Chapter 11.

B. Section 903.6.2 is added to read:

1. **903.6.2 Substantial Remodel or Expansion Group R-3.** An automatic sprinkler system shall be provided throughout all existing R-3 dwellings where a substantial remodel or expansion occurs and the new total fire area of the structure exceeds 3,600 square feet.

C. Section 903.6.3 is added to read:

1. **903.6.3 Change in occupancy classification.** Existing non-residential buildings which undergo a change in occupancy classification to a higher hazard occupancy shall require the entire building be protected by an automatic sprinkler system installed in accordance with CFC Section 903.3. The requirements of CFC Section 903.2 shall not be required when a change of occupancy classification is made to an equal or lesser hazard category.

8.20.050 – Definitions.

A. Section 202 is amended to add the following definitions:

"Finished grade" means the grade of the land after development of the site. This term pertains to the grade below the eaves of a building where a fire ladder would be positioned to provide access to the roof.

"Fire district" means the Moraga-Orinda Fire District.

"Floor area" means the total horizontal area in square feet of each floor within the exterior walls of all buildings on a parcel, as measured from the outer surface of the exterior walls. Total floor area includes attached and detached primary and accessory buildings, garages, carport roof coverage, and floor space which is capable of being developed as habitable area.

"Hillside" means any property which has an average slope of thirty (30) percent or greater as calculated under Section 17.7.4 of the Orinda Municipal Code.

"Substantial addition or expansion" means an addition, expansion, remodel, or renovation of any structure where the new fire area exceeds fifty percent of the existing fire area.

8.20.060 – Enforcement.

The City of Orinda's Fire Code (composed of the 2016 California Fire Code (California Code of Regulations, Title 24, Part 9) as modified by the Moraga-Orinda Fire District and by the City Council of the city of Orinda) shall be enforced by the Moraga-Orinda Fire District. See MOFD Ordinance 10-04 and Orinda City Council Resolution 63-13.

Chapter 15.08 - BUILDING CODE

15.08.010 - Adoption.

- A. The building code of this city is the 2016 California Building Code (California Code of Regulations, Title 24, Part 2, Volumes 1 and 2), the 2016 California Residential Code (California Code of Regulations, Title 24, Part 2.5), and the 2016 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), and the 2016 California Existing Building Code (California Code of Regulations, Title 24, Part 10); as amended by the changes, additions, and deletions set forth herein.
- B. The 2016 California Building Code (CBC) with the changes, additions, and deletions set forth in this chapter and other chapters of this title is adopted by this reference as though fully set forth.
- C. The 2016 California Residential Code with the changes, additions, and deletions set forth in this chapter and other chapters of this title is adopted by this reference as though fully set forth.
- D. The 2016 California Green Building Standards Code with the changes, additions, and deletions set forth in this chapter and other chapters of this title is adopted by this reference as though fully set forth.

- E. The 2016 California Existing Building Code with the changes, additions, and deletions set forth in this chapter and other chapters of this title is adopted by this reference as though fully set forth.
- F. At least one copy of this building code is now on file in the office of the City Clerk and the City Building Department; the other requirements of Government Code Section 50022.6 have been and shall be complied with.
- G. As of the effective date of the ordinance codified in this chapter, the provisions of the building code are controlling and enforceable within the city.
- H. The provisions of this chapter are to be read in conjunction with the provisions of Title 8, Chapter 8.20 "Fire Safety" of this code which adopts and modifies the 2016 California Fire Code (California Code of Regulations, Title 24, Part 9 (based on the 2015 International Fire Code)).

15.08.020 - Automatic fire extinguishing systems in new buildings.

The requirements for automatic sprinkler systems in new buildings are set forth in section 8.20.030 of this Code.

15.08.030 - Automatic fire extinguishing systems in existing buildings.

The requirements for automatic sprinkler systems in existing buildings are set forth in section 8.20.040 of this Code.

15.08.040 - Smoke detectors in flat roof buildings.

Section 907.2.11.9 (Existing Group R Occupancies) of CBC Chapter 9 (Fire Protection Systems) is amended to read:

907.2.11.9 Existing Group R Occupancies. In existing flat roof buildings, the installation of a smoke detector that complies with California Residential Code Section R314.6 shall be required when a pitched roof is added on top of the existing flat roof and the solid sheathing of the flat roof is not removed.

15.08.050 - Address numbers.

Section 501.2 of CBC Chapter 5 (General Building Heights and Areas) is amended to read:

501.2 Address numbers. Approved numbers or addresses shall be provided for all new buildings in such a position as to be plainly visible and legible from the street or road fronting the property. In addition, every new residential dwelling unit building shall be equipped with a lighted (illuminated) house number or address plainly visible and legible from the street or road fronting the property. As appropriate, the planning agency or City Building Official may grant exceptions to the illumination requirements when satisfied that the application of its

requirements would impose an unreasonable hardship and expense for the owner and/or applicant due to special circumstances applicable to the involved new building(s) because of location, topography, or surroundings.

15.08.060 - Wood shakes or shingles.

Section 1406.5 is added to Section 1406 (Combustible Materials on the Exterior Side of Exterior Walls) of CBC Chapter 14 (Exterior Walls) to read:

1406.5 Wood shakes or shingles. Wood shakes or shingles used for exterior wall covering shall be fire treated unless there is a minimum of 10 feet from the exterior wall (including shakes or shingles) to the property line of all sides, except for any sides of exterior walls facing the street.

15.08.070 – Structural Tests and Special Instructions – Concrete Construction.

Section 1705.3 (Concrete construction) of CBC Chapter 17 (Structural Inspections and Tests), Exception 1 is amended to read:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock, where the structural design of the footing is based on a specified compressive strength of no greater than 2,500 pounds per square inch (psi) (17.2 Mpa).

15.08.080 - Soils and foundations.

- A. Section 1809.8 (Plain concrete footings) of CBC Chapter 18 (Soils and Foundations) is deleted.
- B. Section 1810.3.9.3 (Placement of reinforcement) of CBC Chapter 18 (Soils and Foundations) is amended by deleting Exception 3.

15.08.090 - Concrete.

- A. Section 1905.1 (Modification of ACI 318 – General) of CBC Chapter 19 (Concrete) is amended to read:

1905.1 General. The text of ACI 318 shall be modified as indicated in CBC Sections 1905.1.1 through 1905.1.9.
- B. Section 1906 (Structural Plain Concrete) of CBC Chapter 19 (Concrete) is deleted.
- C. Section 1907.1 (Minimum Slab Provisions – General) of CBC Chapter 19 (Concrete) is amended by adding the following sentence to that section:

Slabs shall have 6-inch by 6-inch by 10-gauge wire mesh or equal at mid-height

- D. Appendix C and Appendix I of the CBC are incorporated into the Orinda Building Code. Appendix A, Appendix B, Appendix D, Appendix E, Appendix F, Appendix G, Appendix H, Appendix J, Appendix K, Appendix L, and Appendix M of the CBC are excluded from the Orinda Building Code.

15.08.100 - Administration.

CBC Chapter 1 (Scope and Administration) is amended by the provisions of other Chapters of Title 15 of this code and as follows:

- A. Sections 103, 109, 112, 113, 114, and 116 of CBC Chapter 1 are deleted.
- B. In Section 105.2 (Work Exempt from Permit) of CBC Chapter 1, subsection 4 is amended to read:
4. Retaining walls that are not more than 3 feet in height measured from the top of the footing to the top of the wall and that have a downward ground slope at the bottom of the retaining wall not exceeding 1(vertical):10(horizontal), unless supporting a surcharge or ground slope exceeding 1(vertical):2(horizontal) or impounding Class I, II, or III-a liquids.
- C. Section 107.1 (Submittal Documents – General) of CBC Chapter 1 is amended by deleting the exception.
- D. Section 107.2.1 (Information on construction documents) of CBC Chapter 1 is amended to read:

107.2.1 Information on Construction Documents. Construction documents shall include dimensions and shall be drawn to scale on suitable material. Electronic media documents may be submitted when approved in advance by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed and to show in detail that it will conform to this code and all relevant laws, ordinances, rules, and regulations. The first sheet of each set of plans shall include contact information for the owner and the person or persons who prepared the plans. Plans shall include a plot plan showing all existing property lines labeled and fully dimensioned, the elevations of the top and toe of cuts and fills, and the location of the proposed building with distances to all property lines and to every existing building on the property. Instead of detailed specifications, the county building official may approve references on the plans to a specific section or part of this code or other ordinances or laws.

- E. Section 110.1 (Inspections - General) of CBC Chapter 1 is amended by adding the following to the end of that section:

At the time of first inspection by the county building official, a California licensed Land Surveyor or Civil Engineer shall certify in writing that the structure is placed according to the approved set of plans. The written certification must include the

site address and permit number. This requirement does not apply to alterations or repairs to existing structures that do not affect the exterior limits of the existing structures.

Chapter 15.09 – CALIFORNIA RESIDENTIAL CODE

15.09.010 - Adoption.

- A. The 2016 California Residential Code ("CRC"), as amended by the changes, additions, and deletions set forth in this chapter and other chapters of this title, is adopted by this reference as though fully set forth. Section numbers used below are those of the 2016 California Residential Code.
- B. At least one copy of this building code is now on file in the office of the City Clerk and the City Building Department; the other requirements of Government Code Section 50022.6 have been and shall be complied with.
- C. As of the effective date of the ordinance codified in this chapter, the provisions of the residential code are controlling and enforceable within the city.
- D. Sections R103, R108, R111, R112, R113, and R114 of CRC Chapter 1 (Scope and Application) are deleted.
- E. In Section R105.2 (Work exempt from permit) of CRC Chapter 1 (Scope and Application), subsection 3 is amended to read:
 - 3. Retaining walls that are not more than 3 feet in height measured from the top of the footing to the top of the wall and that have a downward ground slope at the bottom of the retaining wall not exceeding 1(vertical):10(horizontal), unless supporting a surcharge or ground slope exceeding 1(vertical):2(horizontal) or impounding class I, II, or III-a liquids.
- F. Section R403.1.3 (Seismic Reinforcing) of CRC Chapter 4 (Foundations) is amended to delete the exception.
- G. Section R404.1.4.1 (Masonry Foundation Walls) of CRC Chapter 4 (Foundations) is amended to read:

R404.1.4.1 Masonry foundation walls. In addition to the requirements of Table R404.1.1 (1), plain masonry walls in buildings assigned to Seismic Design Category D₀, D₁ or D₂ shall comply with the seismic requirements of Section 1.18.4.4 of TMS 402, ACI 530, or ASCE 5.
- H. Section R404.1.4.2 (Concrete Foundation Walls) of CRC Chapter 4

(Foundations) is amended to read:

Section R404.1.4.2 Concrete foundation walls. Concrete foundation walls in buildings assigned to Seismic Design Category D₀, D₁ or D₂ shall comply with ACI 318, ACI 332, or PCA 100.

- I. Table R602.10.3(3) (Bracing Requirements Based on Seismic Design Category) of CRC Chapter 6 (Wall Construction) is amended as follows:

1. The title of Table R602.10.3(3) is amended to read:

TABLE R602.10.3(3)^f

2. Footnote "f" is added to Table R602.10.03(3), to read:

- f. In Seismic Design Categories D₀, D₁, and D₂, Method GB is not permitted and the use of Method PCP is limited to one-story single family dwellings and accessory structures.

- J. Section R602.10.4.4 is added to Section R602.10.4 (Construction methods for braced wall panels) of CRC Chapter 6 (Wall Construction), to read:

R602.10.4.4 Limits on methods GB and PCP. In Seismic Design Categories D₀, D₁, and D₂, Method GB is not permitted for use as intermittent braced wall panels, but gypsum board is permitted to be installed when required by this section to be placed on the opposite side of the studs from other types of braced wall panel sheathing. In Seismic Design Categories D₀, D₁, and D₂, the use of Method PCP is limited to one-story single family dwellings and accessory structures.

- K. Appendix H of the CRC is incorporated into the Orinda Building Code. Appendix A, Appendix B, Appendix C, Appendix D, Appendix E, Appendix F, Appendix G, Appendix I, Appendix J, Appendix K, Appendix L, Appendix M, Appendix N, Appendix O, Appendix P, Appendix Q, Appendix R, Appendix S, Appendix T, Appendix U, Appendix V, and Appendix W of the CRC are excluded from the Orinda Building Code.

Chapter 15.10 – CALIFORNIA GREEN BUILDING STANDARDS CODE

15.10.010 - Adoption.

- A. The California Green Building Standards Code ("CALGreen" or "CGBSC" code), Part 11 of the California Building Standards Code in Title 24, as amended by the changes, additions, and deletions set forth in this chapter and other

chapters of this title, is adopted by this reference as though fully set forth. Section numbers used below are those of the 2016 California Green Building Standards Code.

- B. At least one copy of this building code is now on file in the office of the City Clerk and the City Building Department; the other requirements of Government Code Section 50022.6 have been and shall be complied with.
- C. As of the effective date of the ordinance codified in this chapter, the provisions of the CALGreen code are controlling and enforceable within the city.
- D. The purpose of this chapter is to cause a reduction in greenhouse gas emissions from buildings; promote environmentally responsible, cost-effective, healthier places to live and work; reduce energy and water consumption; and respond to the directives by the Governor.

15.10.030 – Residential Mandatory Measures.

- A. Section 4.106.4.2 (New multifamily dwellings) of CGBSC Chapter 4 (Residential Mandatory Measures) is amended to read:

Section 4.106.4.2 New multifamily dwellings. For any new multifamily dwelling other than a dwelling type specified in Section 4.106.4.1, at least five percent of the total number of parking spaces provided for all types of parking facilities, but in no case no less than one parking space, shall be electric vehicle charging spaces (EV spaces). Each EV space shall be equipped with fully operational electric vehicle supply equipment (EVSE). The location of each EV space shall be identified on construction documents. Calculations to determine the number of EV spaces shall be rounded up to the nearest whole number.

15.10.040 – Nonresidential Mandatory Measures.

- A. Section 5.106.5.3 (Electric vehicle (EV) charging) of CGBSC Chapter 5 (Nonresidential Mandatory Measures) is amended to read:

Section 5.106.5.3 Electric vehicle (EV) charging. [N] New nonresidential construction shall comply either with Section 5.106.5.3.1 or Section 5.106.5.3.2, whichever is applicable, and provide the required number of fully operational EV charging spaces (EV spaces). Each EV space shall be installed in accordance with the California Building Code and California Electrical Code, and the requirements of Section 5.106.5.3.1 or Section 5.106.5.3.2, whichever is applicable.

- B. Section 5.106.5.3.1 (Single charging space requirements) of CGBSC Chapter 5 (Nonresidential Mandatory Measures) is amended to read:

Section 5.106.5.3.1 Single charging space requirements. [N] If Table 5.106.5.3.3 requires only one EV space for new nonresidential construction,

one fully operational EV space must be installed in accordance with the California Electrical Code. The construction plans and specifications for the new nonresidential construction must satisfy the following requirements:

1. The type and location of the EVSE must be identified on the plans and specifications.
2. The plans and specifications must establish that each raceway is not less than trade size one inch.
3. Each, and at least one, listed raceway capable of accommodating a 208/240-volt dedicated branch circuit must be identified on the plans and specifications.
4. Each raceway must originate at a service panel or subpanel serving the area where the EVSE will be located, and must terminate at the location of the required charging equipment and into a listed, suitable cabinet, box, enclosure, or equivalent structure.
5. Each service panel or subpanel must have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the EVSE.

- C. Section 5.106.5.3.2 (Multiple charging space requirements) of CGBSC Chapter 5 (Nonresidential Mandatory Measures) is amended to read:

Section 5.106.5.3.2 Multiple charging space requirements. [N] If Table 5.106.5.3.3 requires more than one EV space for new nonresidential construction, the number of fully operational EV spaces specified in Table 5.106.5.3.3 must be installed in accordance with the California Electrical Code. The construction plans and specifications for the new nonresidential construction must satisfy the following requirements:

1. The type and location of the EVSE must be identified on the plans and specifications.
2. Each raceway must originate at a service panel or subpanel serving the area where the EVSE will be located, and must terminate at the location of the required charging equipment and into a listed, suitable cabinet, box, enclosure, or equivalent structure.
3. Each service panel or subpanel must have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the EVSE.
4. The plans and specifications must include electrical

calculations to substantiate that the design of the electrical system, including the rating of equipment and any onsite distribution transformers, has sufficient capacity to simultaneously charge EVs at all required EV spaces at their full-rated amperage.

5. Each service panel or subpanel must have sufficient capacity to accommodate the required number of dedicated branch circuits for the EVSE that will be installed.

- D. Section 5.106.5.3.3 (EV charging space calculations) of CGBSC Chapter 5 (Nonresidential Mandatory Measures) is amended to read:

Section 5.106.5.3.3 EV charging space calculations. [N] The required number of charging spaces with EVSE for new nonresidential construction must be calculated in accordance with Table 5.106.5.3.3.

Exception: On a case-by-case basis, the building official may require new construction to include fewer EV charging spaces than would otherwise be required by Table 5.106.5.3.3, or require no spaces, if the building official determines either of the following:

1. There is insufficient electrical supply to the new construction to adequately serve the required number of EV charging spaces.
2. The cost of the new construction will be substantially adversely impacted by any local utility infrastructure design requirements that are directly related to the installation of the required number of EV charging spaces.

TABLE 5.106.5.3

NONRESIDENTIAL CHARGING SPACE CALCULATION	
TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV CHARGING SPACES
1-9	0
10-25	2
26-50	3
51-75	5
76-100	6
101-200	12
201 and over	6%*
*Calculation for spaces shall be rounded up to the nearest whole number	

- E. Section 5.106.5.3.4 (Identification) of CGBSC Chapter 5 (Nonresidential Mandatory Measures) is amended to read:

Section 5.106.5.3.4 [N] Identification. Each service panel or subpanel circuit directory must identify the reserved overcurrent protective device space or spaces for EV charging as "EV CAPABLE." Each raceway termination location must be permanently and visibly marked "EV CAPABLE."

- F. Section 5.106.5.3.5 of CGBSC Chapter 5 (Nonresidential Mandatory Measures) is amended to read:

Section 5.106.5.3.5 [N] Each EV charging space required by Section 5.106.5.3.3 shall be counted as one designated parking space required by Section 5.106.5.2

Chapter 15.11 – EXISTING BUILDING CODE

15.11.010 - Adoption.

- A. The existing building code of the city is the 2016 California Existing Building Code (California Code of Regulations, Title 24, Part 10) ("CEBC"), as amended by the changes, additions, and deletions set forth in this chapter and other chapters of this title, is adopted by this reference as though fully set forth. Section numbers used below are those of the 2016 California Existing Building Code.
- B. At least one copy of this existing building code is now on file in the office of the City Clerk and the City Building Department; the other requirements of Government Code Section 50022.6 have been and shall be complied with
- C. As of the effective date of the ordinance from which this division is derived, codified in this chapter, the provisions of the mechanical code are controlling and enforceable within the city.

15.11.020 - Administration.

CEBC Chapter 1 (Scope and Administration) is amended by the provisions of other Chapters of Title 15 of this code and as follows:

- A. Sections 103, 108, 111, 112, 113, and 115 of CEBC Chapter 1 are deleted.
- B. Section 106.1 (Construction Documents - General) of CEBC Chapter 1 is amended by deleting the exception.
- C. Section 106.2.1 (Construction documents) of CEBC Chapter 1 is amended to read:

106.2.1 Construction documents. Construction documents shall include dimensions and shall be drawn to scale on suitable material. Electronic media documents may be submitted when approved in advance by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed and to show in detail that it will conform to this code and all relevant laws, ordinances, rules, and regulations. The first sheet of each set of plans shall include contact information for the owner and the person or persons who prepared the plans. Plans shall include a plot plan showing all existing property lines labeled and fully dimensioned, the elevations of the top and toe of cuts and fills, and the location of the proposed building with distances to all property lines and to every existing building on the property. Instead of detailed specifications, the county building official may approve references on the plans to a specific section or part of this code or other ordinances or laws.

- D. Section 109.1 (Inspections - General) is amended by adding the following to the end of that section:

At the time of first inspection by the county building official, a California licensed Land Surveyor or Civil Engineer shall certify in writing that the structure is placed according to the approved set of plans. The written certification must include the site address and permit number. This requirement does not apply to alterations or repairs to existing structures that do not affect the exterior limits of the existing structures.

Chapter 15.12 - ELECTRICAL CODE

15.12.010 - Adoption.

- A. The electrical code of the city is the 2016 California Electrical Code (California Code of Regulations, Title 24, Part 3) ("CEC"), as amended by the changes, additions, and deletions set forth herein.
- B. The 2016 California Electrical Code, with the changes, additions, and deletions set forth in this chapter and in other chapters of this title is adopted by this reference as though fully set forth.
- C. At least one copy of this electrical code is now on file in the office of the City Clerk and the City Building Department; the other requirements of Government Code Section 50022.6 have been and shall be complied with.
- D. As of the effective date of the ordinance, codified in this chapter, the provisions of the electrical code are controlling and enforceable within the city.
- E. The purpose of this chapter is the practical safeguarding of persons and property and of buildings and their contents from hazards arising from the use or

generation of electricity for light, heat, power, radio, television, signaling, and other purposes.

15.12.020 – Unlawful wiring, electric fences, warning.

- A. Prohibition. Except as provided in subsection (b), a person may not construct or maintain any spring gun or any electric wiring device designated or intended to injure and/or shock animals or persons, or any contrivance or apparatus for that purpose.
- B. Livestock Exception. Persons principally engaged in the business of handling livestock as a primary means of production or income may electrify fences to control or confine livestock upon complying with all the following requirements:
 - 1. Any contrivance or mechanism to control electrical current in such fences shall be listed by an approved testing laboratory, and shall include a suitable interrupting device and such other safety devices to prevent dangerous currents getting on the fence at any time.
 - 2. Any electrical fence to which the public may have access, except cross fences to confine and control livestock, shall be posted with a warning notice containing the following or similar wording: "DANGER. ELECTRIC FENCE" or "DANGER. HIGH VOLTAGE." This notice shall be posted along any such main fence at intervals of not more than 200feet and in letters at least two inches high.

15.12.030 - Power from generators.

- A. All occupancies that have commercially supplied electricity shall connect to the commercial supplier.
- B. Any occupancy that has commercially supplied electricity shall not use a permanent or temporary generator(s), provided that a generator(s) may be used for commercial purposes when authorized by the City Building Official.

15.12.040 - Boat docks.

Whether open or roofed, lighting shall be provided to insure sufficient protective lighting at least two foot candles at all points for pedestrians on the docks, within covered berths, and on all walkways or ramps to shore and to the nearest access road within or adjacent to the harbor property.

15.12.050 - Public nuisance lighting.

Lighting fixtures shall be so installed, controlled or directed so that the light will not glare or be blinding to pedestrians or vehicular traffic or on adjoining property.

15.12.060 – Time of service.

- A. On alteration jobs requiring a change of service, the service shall be changed and inspected at the frame or rough wiring state.
- B. On swimming pool jobs requiring a change of service, the service shall be changed and completed prior to the approval for pouring or cementing of the pool or steel inspection of the pool cavity.

Chapter 15.16 - PLUMBING CODE

15.16.010 - Adoption.

- A. The plumbing code of the city is the 2016 California Plumbing Code (California Code of Regulations, Title 24, Part 5), as amended by the changes, additions, and deletions set forth herein..
- B. The 2016 California Plumbing Code, with the changes, additions, and deletions set forth in this chapter and in other chapters of this title is adopted by this reference as though fully set forth.
- C. At least one copy of this plumbing code is now on file in the office of the City Clerk and the City Building Department; the other requirements of Government Code Section 50022.6 have been and shall be complied with.
- D. As of the effective date of the ordinance codified in this chapter, the provisions of the plumbing code are controlling and enforceable within the city.

Chapter 15.20 - MECHANICAL CODE

15.20.010 - Adoption.

- A. The mechanical code of the city is the 2016 California Mechanical Code (California Code of Regulations, Title 24, Part 4), as amended by the changes, additions, and deletions set forth herein..
- B. The 2016 California Mechanical Code, with the changes, additions, and deletions set forth in this chapter and in other chapters of this title is adopted by this reference as though fully set forth.
- C. At least one copy of this mechanical code is now on file in the office of the City Clerk and the City Building Department; the other requirements of Government Code Section 50022.6 have been and shall be complied with.

- D. As of the effective date of the ordinance codified in this chapter, the provisions of the mechanical code are controlling and enforceable within the city.

853185.1

BEFORE THE CITY COUNCIL OF THE CITY OF ORINDA

In the Matter of:

RESOLUTION adopting Contra Costa)	RESOLUTION NO. 04-17
County's findings of fact regarding the need)	
for the modifications to the provisions of the)	
2016 California Building Standards Code)	
made in the Orinda Municipal Code.)	
)	

WHEREAS, California Health and Safety Code Section 18938 makes certain provisions published in the California Building Standards Code pursuant to Health and Safety Code Section 17922 applicable to all occupancies throughout the state and effective one hundred eighty days after publication by the California Building Standards Commission ("Commission"), or at a later date established by the Commission; and

WHEREAS, Health and Safety Code Section 17958 permits cities to amend the requirements of the California Building Standards Code in accordance with Health and Safety Code Sections 17958.5 and 17958.7; and

WHEREAS, Health and Safety Code Section 17958.5 permits cities in adopting provisions of the California Building Standards Code to make such changes in such provisions as the city determines, pursuant to Health and Safety Code Section 17958.7, are reasonably necessary because of local climatic, geological, or topographical conditions; and

WHEREAS, Health and Safety Code Section 17958.7 requires that a city, before making changes pursuant to Health and Safety Code Section 17958.5, must make an express finding that such changes are reasonably necessary because of local climatic, geological, or topographical conditions; and

WHEREAS, under Health and Safety Code Section 17958.7, changes pursuant to Health and Safety Code Section 17958.5 may not become effective until the required findings, and the changes, have been filed with the Commission; and

WHEREAS, Government Code Section 50022.2 permits enactment of city ordinances that adopt codes or statutes, including codes of the State of California, by reference; and

WHEREAS, the City Council of the City of Orinda ("City Council") intends to adopt an ordinance adopting by reference certain provisions of the Building Codes; and

WHEREAS, the City Council intends to adopt an ordinance containing modifications to the Building Codes that reflect the modifications adopted by Contra Costa County; and

WHEREAS, the City Council has reviewed Contra Costa County's Findings in Support of Changes, Additions, and Deletions to Statewide Building Standards Code, which finds that modifications to the statewide building code are reasonably necessary because of local climatic, geological, or topographical conditions;

NOW, THEREFORE, BE IT RESOLVED that the City Council does hereby declare and find that the changes to the provisions of the California Building Standards Code set forth in Ordinance 17-01 are reasonably necessary because of local climatic, geological, or topographical conditions, in accordance with Health and Safety Code Section 17958.7, as set forth in Contra Costa County's Findings in Support of Changes, Additions, and Deletions to Statewide Building Standards Code; and

BE IT FURTHER RESOLVED that the City Council of the City of Orinda does hereby adopt Contra Costa County's Findings in Support of Changes, Additions, and Deletions to Statewide Building Standards Code (Appendix A); and

BE IT FURTHER RESOLVED that a copy of this Resolution, Contra Costa County's Findings in Support of Changes, Additions, and Deletions to Statewide Building Standards Code, shall be filed with the California Building Standards Commission in accordance with Health and Safety Code Section 17958.7.

PASSED AND ADOPTED by the City Council of the City of Orinda at a meeting held on January 24, 2017, by the following vote, to wit:

AYES: COUNCILMEMBERS: GEE, MILLER, ORR, PHILLIPS, WORTH

NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: NONE

ABSTAIN: COUNCILMEMBERS: NONE



Eve Phillips, Mayor

ATTEST:


Sheri Marie Spediacci, City Clerk

Appendix A: Contra Costa County's Findings in Support of Changes, Additions, and Deletions to Statewide Building Standards Code

CONTRA COSTA COUNTY
**FINDINGS IN SUPPORT OF CHANGES, ADDITIONS, AND DELETIONS TO
STATEWIDE BUILDING STANDARDS CODE**

The California Building Standards Commission has adopted and published the 2016 Building Standards Code, which is comprised of the 2016 California Building, Residential, Green Building Standards, Electrical, Plumbing, Mechanical and Existing Building Codes. These codes are enforced in Contra Costa County by the Building Inspection Division of the Department of Conservation and Development.

Although these codes apply statewide, Health and Safety Code sections 17958.5 and 18941.5 authorize a local jurisdiction to modify or change these codes and establish more restrictive building standards if the jurisdiction finds that the modifications and changes are reasonably necessary because of local climatic, geological or topographical conditions. For the California Green Building Standards Code, local climatic, geological, or topographical conditions include local environmental conditions.

Ordinance No. 2016-22 adopts the statewide codes and amends them to address local conditions. Pursuant to Health and Safety Code section 17958.7, the Contra Costa County Board of Supervisors finds that the more restrictive standards contained in Ordinance No. 2016-22 are reasonably necessary because of the local climatic, geological, and topographic conditions that are described below.

I. Local Conditions

A. Geological and Topographic

1. Seismicity

(a) Conditions

Contra Costa County is located in Seismic Design Categories D and E, which designates the highest risk for earthquakes in the United States. Buildings and other structures in these zones can experience major seismic damage. Contra Costa County is in close proximity to numerous earthquake faults including the San Andreas Fault and contains all or portions of the Hayward, Calaveras, Concord, Antioch, Mt. Diablo, and other lesser faults. A 4.1 earthquake with its epicenter in Concord occurred in 1958, and a 5.4 earthquake with its epicenter also in Concord occurred in 1955. The Concord and Antioch faults have a potential for a Richter 6 earthquake and the Hayward and Calaveras faults have the potential for a Richter 7 earthquake. Minor tremblers from seismic activity are not uncommon in the area. A study released in 2015 by the Working Group of California Earthquake Probabilities predicts that for the San Francisco region,

the 30 year likelihood of one or more earthquake of 6.7 or larger magnitude is 72%. The purpose of this Working Group is to develop statewide, time-dependent Earthquake Rupture Forecasts for California that use best available science, and are endorsed by the United States Geological Survey, the Southern California Earthquake Center, and the California Geological Survey. Scientists, therefore, believe that an earthquake of a magnitude 6.7 or larger is now slightly more than twice as likely to occur as to not occur in, approximately, the next 30 years.

Interstates 680, 80, 580 and State Route 4 run the length throughout Contra Costa County. These interstates and state routes divide the County into a west, south, north and east. An overpass or undercrossing collapse would significantly alter the response route and time for responding emergency equipment. This is due to limited crossings of the interstate and that in some areas there is only one surface street, which runs parallel to the interstate, which would be congested during a significant emergency.

Earthquakes of the magnitude experienced locally can cause major damage to electrical transmission facilities and to gas and electrical lines in buildings, which in turn start fires throughout the County. The occurrence of multiple fires will quickly deplete existing fire department resources; thereby reducing and/or delaying their response to any given fire.

(b) Impact

A major earthquake could severely restrict the response of all Contra Costa County Fire Districts and their capability to control fires involving buildings of wood frame construction, with ordinary roofing materials and flammable exteriors, or with large interior areas not provided with automatic smoke and fire control systems. Also, when buildings not equipped with earthquake structural support move off their foundations, gas pipes may rupture. Fires develop from line ruptures and spread from house to house, causing an extreme demand for fire protection resources. The proximity of large areas within the County to fault traces, necessitates adopting stricter structural construction standards.

More restrictive electric vehicle charging standards and construction and demolition waste recovery requirements would not negatively impact the County's infrastructure or public safety resources in the event of a major earthquake.

2. Soils

(a) Conditions

The area is replete with various soils, which are unstable, clay loam and alluvial fans

being predominant. These soil conditions are moderately to severely prone to swelling and shrinking, are plastic, and tend to liquefy.

Throughout Contra Costa County, the topography and development growth has created a network of older, narrow roads. These roads vary from gravel to asphalt surface and vary in percent of slope, many exceeding twenty (20) percent. Several of these roads extend up through the winding passageways in the hills providing access to remote, affluent housing subdivisions. The majority of these roads are private with no established maintenance program. During inclement weather, these roads are subject to rock and mudslides, as well as downed trees, obstructing all vehicle traffic. It is anticipated that during an earthquake, several of these roads would be unpassable so as to prevent fire protection resources from reaching fires caused by gas line ruptures or other sources.

3. Topographic

(a) Conditions

i) Vegetation

Highly combustible dry grass, weeds, and brush are common in the hilly and open space areas adjacent to built-up locations six (6) to eight (8) months of each year. Many of these areas frequently experience wildland fires, which threaten nearby buildings, particularly those with wood roofs, or sidings. This condition can be found throughout Contra Costa County, especially in those developed and developing areas of the County. Earthquake gas fires due to gas line ruptures can ignite grasslands and stress fire district resources.

ii) Surface Features

The arrangement and location of natural and manmade surface features, including hills, creeks, canals, freeways, housing tracts, commercial development, fire stations, streets, and roads, combine to limit feasible response routes for Fire District resources in and to District areas.

iii) Buildings, Landscaping, and Terrain

Many of the newer large buildings and building complexes have building access and landscaping features and designs, which preclude or greatly limit any approach or operational access to them by Fire District vehicles. In addition, the presence of security gates and roads of inadequate width and grades that are too steep for Fire District vehicles adversely affect fire suppression efforts.

When Fire District vehicles cannot gain access to buildings involved with fire, the potential for complete loss is realized. Difficulty reaching a fire site often requires that fire personnel both in numbers and in stamina. Access problems often result in severely delaying, misdirecting or making impossible fire and smoke control efforts. In existing structures where pitched roofs have been built over an existing roof, smoke detectors should be required to warn residents of smoke and fire before the arrival of fire personnel.

(b) Impact

The above local geological and topographical conditions increase the magnitude, exposure, accessibility problems, and fire hazards presented to the County fire resources. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself. Most earthquake fires are created by natural gas developed from gas line ruptures. Hazardous materials, particularly toxic gases, could pose the greatest threat to the largest number, should a significant seismic event occur. Public safety resources would have to be prioritized to mitigate the greatest threat, and may likely be unavailable for smaller single dwellings that were caused by broken gas lines.

Other variables may tend to intensify the situation:

1. The extent of damage to the water system
2. The extent of isolation due to bridge and/or freeway overpass collapse.
3. The extent of roadway damage and/or amount of debris blocking the roadways.
4. Climatic condition (hot, dry weather with high winds).
5. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours.
6. The availability of timely mutual aid or military assistance.
7. The large portion of dwellings with wood shake or shingle coverings (both on the roof diaphragm and sides of the dwellings) could result in conflagrations.
8. The large number of dwellings that slip off their foundations and rupture gas lines and electrical systems resulting in further conflagrations.

More restrictive electric vehicle charging standards and construction and demolition waste recovery requirements would not impact the availability of the County's fire or public safety resources.

B. Climatic

1. Precipitation and Relative Humidity

(a) Conditions

Precipitation ranges from 15 to 24 inches per year with an average of approximately 20 inches per year. Ninety-six (96) percent falls during the months of October through April and four (4) percent from May through September. This is a dry period of at least five (5) months each year. Additionally, the area is subject to occasional drought. Relative humidity remains in the middle range most of the time. It ranges from forty-five (45) to sixty-five (65) percent during spring, summer, fall, and from sixty (60) to ninety (90) percent in the winter. It occasionally falls as low as fifteen (15) percent.

(b) Impact

Locally experienced dry periods cause extreme dryness of untreated wood shakes and shingles on buildings and non-irrigated grass, brush and weeds, which are often near buildings with wood roofs and sidings. Such dryness causes these materials to ignite very readily and burn rapidly and intensely. Gas fires due to gas line ruptures can also spark and engulf a single family residence during these dry periods.

Because of dryness, a rapidly burning gas fire or exterior building fire can quickly transfer to other buildings by means of radiation or flying brands, sparks or embers. A small fire can rapidly grow to a magnitude beyond the control capabilities of the Fire District resulting in an excessive fire loss.

2. Greenhouse Gas Emissions

(a) Conditions

The California Air Resources Board has collected information on emissions from air pollution sources since 1969. This information is periodically compiled by State and local air pollution control agencies to create regional and statewide greenhouse gas emissions inventories. The California greenhouse gas emissions inventory maintains information on various air pollution sources and identifies "mobile sources" (all on-road vehicles such as automobiles and trucks; off-road vehicles such as trains, ships, aircraft; and farm equipment) as a primary pollution source. According to the 2016 statewide inventory, the transportation sector remains the largest source of greenhouse gas emissions, accounting for 36% of the total greenhouse gas emissions. Emissions from recycling and waste, comprising of 2% of the total greenhouse gas emissions, have grown by 19% since 2000, and 94% of that amount are landfill emissions. California adopted land use and transportation policies and mandatory recycling laws to help reduce greenhouse gas emissions by promoting the use of renewable energy sources and reducing landfill disposal.

Contra Costa County also completed a local greenhouse gas emissions inventory as well

as a community-wide Climate Action Plan. The County's Climate Action Plan contains measures reducing greenhouse gas emissions pertaining to renewable fuel vehicles and reducing disposal for the purpose of reducing greenhouse gas emissions.

(b) Impact

More restrictive electric vehicle charging standards and construction and demolition waste recovery requirements would be consistent with the intent of State legislation and County requirements to aggressively implement energy and waste policies designed to ensure success in meeting their greenhouse gas emission reduction and reusable energy and recycling goals.

3. Temperature

(a) Conditions

Temperatures have been recorded as high as 114° F. Average summer highs are in the 75° to 90° range, with average maximums of 105° F in some areas of unincorporated Contra Costa County.

(b) Impact

High temperatures cause rapid fatigue and heat exhaustion of firefighters, thereby reducing their effectiveness and ability to control large building, wildland fires, and fires caused by gas line ruptures.

Another impact from high temperatures is that combustible building material and non-irrigated weeds, grass and brush are preheated, thus causing these materials to ignite more readily and burn more rapidly and intensely. Additionally, the resultant higher temperature of the atmosphere surrounding the materials reduces the effectiveness of the water being applied to the burning materials. This requires that more water be applied, which in turn requires more fire resources in order to control a fire on a hot day. High temperatures directly contribute to the rapid growth of fires to an intensity and magnitude beyond the control capabilities of the Fire Districts in Contra Costa County. The change of temperatures throughout the County between very low and extreme highs contributes to a voltage drop in conductors used for power pole lines. This necessitates that voltage drops be considered.

More restrictive electric vehicle charging standards and construction and demolition waste recovery requirements would not have a negative impact on the temperature conditions within the County.

4. Winds

(a) Conditions

Prevailing winds in many parts of Contra Costa County are from the north or northwest in the afternoons. However, winds are experienced from virtually every direction at one time or another. Velocities can reach fourteen (14) mph to twenty-three (23) mph ranges, gusting to twenty-five (25) to thirty-five (35) mph. Forty (40) mph winds are experienced occasionally and winds up to fifty-five (55) mph have been registered locally. During the winter half of the year, strong, dry, gusty winds from the north move through the area for several days creating extremely dry conditions.

(b) Impact

Winds such as those experienced locally can and do exacerbate fires, both interior and exterior, to burn, and spread rapidly. Fires involving non-irrigated weeds, grass, brush, and fires caused by gas line ruptures can grow to a magnitude and be fanned to an intensity beyond the control capabilities of the fire services very quickly even by relatively moderate winds. When such fires are not controlled; they can extend to nearby buildings, particularly those with untreated wood shakes or shingles.

Winds of the type experienced locally also reduce the effectiveness of exterior water streams used by all Contra Costa County Fire Districts on fires involving large interior areas of buildings, fires which have vented through windows and roofs due to inadequate built-in fire protection and fires involving wood shake and shingle building exteriors. Local winds will continue to be a definite factor toward causing major fire losses to buildings not provided with fire resistive roof and siding materials and buildings with inadequately separated interior areas, or lacking automatic fire protection systems, or lacking proper gas shut-off devices to shut off gas when pipes are ruptured, or lacking proper electrical systems. National statistics frequently cite wind conditions, such as those experienced locally, as a major factor where conflagrations have occurred.

More restrictive electric vehicle charging standards and construction and demolition waste recovery requirements would not have a negative impact on the wind conditions within the County.

II. Necessity of More Restrictive Standards

Because of the conditions described above, the Contra Costa County Board of Supervisors finds that there are building and fire hazards unique to Contra Costa County that require the increased fire protection and structural and design load requirements set forth in Ordinance No. 2016-22.

- The ordinance amends the 2016 California Building Code by:
 - Requiring the installation of a smoke detector in existing flat roof buildings when a pitched roof is added on top of the existing flat roof and the solid sheathing of the flat roof is not removed. (§ 74-4.002(b).)
 - Requiring most wood shakes or shingles used for exterior wall covering to be fire treated. (§ 74-4.002(c).)
 - Requiring special inspections for concrete at certain foundations to be consistent with code requirements for concrete at other locations. (§ 74-4.002(d).)
 - Addressing the poor performance of plain concrete structural elements during seismic events. (§ 74-4.002(e), § 74-4.002(g), and § 74-4.002(h).)
 - Prohibiting placement of reinforcement while the concrete is in a semifluid condition thus increasing quality control during construction. Enhanced quality control is necessary because of seismic considerations. (§ 74-4.002(f).)
- The ordinance amends the 2016 California Residential Code by:
 - Prohibiting in single family dwellings and accessory structures braced wall panels that use gypsum wallboard and by limiting in single family dwellings and accessory structures the use of braced wall panels that use Portland Cement Plaster to dwellings of only one story buildings, as these materials have performed poorly during recent California seismic events. (§74-4.004(c), and §74-4.004(d).)
- The ordinance amends the 2016 California Green Building Standards Code by:
 - Imposing more restrictive electric vehicle charging standards consistent with those presently enforced in the County, as follows:
 - For new multi-family buildings:
 - Increase the required number of Electric Vehicle Charging Spaces (“EV spaces”) to five percent of the total number of parking spaces provided, where three percent is the minimum required in the statewide code. (§ 74-4.006(c).)
 - Require a minimum of one EV space for every new multi-family building (three or more units) as opposed to statewide code which requires no EV spaces for multi-family buildings with fewer than 17 units. (§ 74-4.006(c).)
 - Require that Electric Vehicle Supply Equipment (“EVSE”) be installed for each EV space in addition to the electrical infrastructure required by the statewide code. (§ 74-4.006(c).)
 - For new non-residential buildings:
 - Required number of EV spaces in new construction shall provide fully operational EVSE as opposed to statewide code which requires electrical infrastructure only. (§§ 74-4.006(j), §74-4.006(k), and § 74-4.006(l).)

- Increase the required number of EV spaces for projects with more than nine parking spaces, and less than 201 parking spaces. (§ 74-4.006(m).)
- Imposing more restrictive construction waste reduction, disposal and recycling standards consistent with those presently enforced in the County as follows:
 - Imposing the mandatory restrictions from Chapter 4 of the 2016 CGBSC on certain projects for existing residential buildings, including:
 - Projects that increase the total combined conditioned and unconditioned building area by 5000 square feet or more. ((§ 74-4.006(a).)
 - Projects that impact 5000 square feet or more of the total combined conditioned and unconditioned building area. ((§ 74-4.006(a).)
 - Demolition projects when a demolition permit is required, except demolition projects that are necessary to abate a public nuisance. (§ 74-4.006(a), and § 74-4.006(b).)
 - Eliminating the exception from construction waste management requirements for projects solely based on their isolated location from diversion facilities. ((§ 74-4.006(d).)
 - Requiring that weight and not volume is used to measure the amount of the construction and demolition debris disposed and diverted. (§ 74-4.006(e), and § 74-4.006(q).)
 - Requiring that more comprehensive documentation for construction waste management be provided to the enforcing agency and making submittal of the same a prerequisite for scheduling final inspections. (§ 74-4.006(i), and § 74-4.006(t).)
- The amendments to the 2016 California Existing Building Code are not substantive in nature and are limited to administrative provisions for the use and enforcement of this Code, and to be consistent with the administrative provisions of the statewide codes as amended.